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ABSTRACT

This study investigated the relations between different measurements of 33 4-year-olds' compliance and self-control and the relation between the children's cognitive ability and compliance and self-control. The four compliance ratings involved the child's behavior with mother and father in separate puzzle tasks, free play in the child care setting, and the California Q-Set as completed by the mother. The self-control ratings involved the child's behavior in laboratory and child care settings. Cognitive functioning was measured by means of the Wechsler Preschool and Primary Scale of Intelligence. Maternal Q-Sort assessment of compliance was marginally related to compliance in the child care setting, while self-control in the laboratory was marginally related to compliance and self-control in the child care setting. The child's level of cognitive functioning was related to compliance in the puzzle task with the mother, while self-control in child care was related to compliance in child care. The lack of relations between compliance with parents and other measures suggests that compliance and self-control in one situation cannot predict behaviors in situations involving different relationships and constraints. A reference list of 10 items is provided. (BC)

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COMPLIANCE AND SELF-CONTROL ACROSS SITUATIONS AT AGE 4

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Children's ability and willingness to accept the influence of caregiving adults has been cited as a major component of the early process of socialization (Kopp, 1982; Maccoby & Martin, 1983). Self-control and compliance have been the focus of much of the research in this area. Schneider-Rosen and Wenz-Gross (1990) reason that a variety of situations requiring self-control place different demands on the child and result in distinct behavioral manifestations of compliance. In order to chart the developmental course of self-initiated regulation of behavior, Kopp (1982) examined the emerging ability to comply with caregivers' wishes, the ability to monitor one's behavior, i.e. self-control, and the effect of cognitive functioning level on these abilities. In the present study, both self-control and compliance ratings were made in various situations in a group of 4-year-olds. In addition, a standardized measure of intelligence was administered.

In their discussion of children's socialization, Maccoby and Martin (1983) focus on compliance as an indicator of the child's response to parental attempts to influence behavior and, thus, view child compliance as a product of the nature of the parent-child

relationship. Eisenberg and Mussen (1989) focus on situational, nonrelational factors influencing compliance, viewing behavior as a function of the interaction between characteristics of the individual and features of the specific situation or circumstances. Thus, individual characteristics, readiness to accept the influence of a partner, and situational factors all impact the socialization process.

Maccoby and Martin (1983) make a rough distinction between two types of compliance. One type relates to immediate situational pressures, involving threat of punishment or promise of reward, and is referred to as situational compliance. Situational compliance is distinguished from reciprocity-based compliance that stems from a more generalized willingness to cooperate with (or perhaps to "exchange compliances with") a partner. This second type is termed receptive compliance. We propose that compliance is not distinctly of one type or the other but varies in the degree to which situational or relational factors predominate. In measuring the compliance of children, there is always a relationship involved, whether

parent, teacher, or experimenter. The influence of the relationship on the child's manifest compliance, however, may be more profound in situations with the parent than with an unknown experimenter. The compliance of the child in settings involving an experimenter and not the parent may, therefore, be more a product of the child's individual nature and the situational constraints, i.e. desirability of reward, than of the relationship between the experimenter and the child.

In the present study we tested the relation among different measurements of 4-year-olds' compliance and self-control in settings that varied in situational and relational characteristics. Kopp (1982) concluded that the child must attain a certain level of cognitive functioning in order to comply with requests. Thus, we also tested the relation between the child's general cognitive ability and compliance and self-control across the different settings.

Method

Subjects

The subjects (N = 33) in this study were part of a larger on-going longitudinal research effort. All

children were first-born, Caucasian, and middle class. There were 20 males and 13 females. The children's parents had been participating in the longitudinal study since the third trimester of pregnancy with these first-born children. At the time these data were collected the children were 4 to 4 1/2 years of age.

Procedures

Data collection for the measures discussed in this study took place in the child care setting, in the laboratory, and in the home. Data were gathered during live observations of the child's behavior, from videotapes of semi-structured parent child interactions, from videotapes of laboratory tasks with an experimenter, and from a Q-sort measure of the mother's perception of the child.

Child Care Observations. All but two of the children were attending some form of child care at age 4. The children were individually observed in these settings that varied from part-time to full-time programs.

In the child care setting, the child's compliance and self-control were rated during a regularly occurring period of free play. Trained raters observed

each target child for one hour. Teachers were instructed to conduct their routine as naturally as possible. Following the observation, ratings of compliance and self-control were made on 9-point global rating scales.

Laboratory Tasks. Additional ratings of compliance and self-control were obtained in two different tasks during the family's visit to the laboratory. The first task involved a pair of laboratory situations in which the child was observed separately with mother and with father in "puzzle tasks". In these tasks the child was to complete a series of puzzles which increased in difficulty. There were four abstract puzzles: a dog, a cat, a bird, and a fish. The parent was offered a guide for each puzzle. In counter-balanced order, the child worked with a pair of the puzzles with mother and the remaining pair with father for 10 minutes each. The parent was told to have the child begin with the dog (cat) puzzle and to use the guide if necessary (most found the puzzles too difficult to complete without the guide), giving the child whatever help the parent thought he\she needed. The child was next to work on the bird (fish) with the

guide, again with the parent offering whatever help he\she thought necessary. Finally the parent was to have the child try to complete the puzzles without the guides. All instructions were given to the parent at the beginning of the session by the experimenter who then left the room. The interaction was videotaped. The child's compliance to the parents' directives and suggestions was considered a measure of receptive compliance.

A second laboratory measure was adapted from the battery of tasks developed by Block and Block (1980). In this task the child was presented with an attractively wrapped gift and was told not to touch it until given permission to do so. The child was given three simple puzzles to complete while waiting for permission to open the gift. The gift was placed within easy reach of the child on the table at which the child was seated with the puzzles. The experimenter sat in a corner of the room "working" for 2 1/2 minutes or until the child touched the gift. The parents were not present and the task was videotaped for later scoring. The child's ability to control

his\her responses and impulses was considered a measure of self-control.

Parent ratings. In an additional task, mothers completed the California Child Q-Set (Block & Block, 1980), and a composite compliance rating was derived from that instrument. The maternal ratings gathered from this instrument were considered a rating of global child compliance. This rating was believed to be less situationally influenced as mothers have experience with the child over time and across numerous situations in order to make a generalized rating.

Measures

Table 1 presents a summary of the compliance and self-control measures grouped by situation.

Compliance.

There were four ratings of child compliance:

1. Global ratings on a 6-point scale of the child's behavior with mother in a puzzle completion task.

2. Similar global ratings with father in a parallel version of the puzzle task.

All videotapes were scored by two of four raters. Interrrater reliability (agreement/agreement +

disagreement), within one point, for compliance in the puzzle task was 75%. All disagreements were resolved and analyses were based on the consensus scores.

3. Ratings on a 7-point scale from the one hour of live observation of free play in the child care setting.

Interrater reliability (agreement/agreement + disagreement), within one point, for the global compliance ratings in child care was 87%. All disagreements were resolved and analyses were based on the consensus scores.

The global ratings of compliance in the puzzle task and in the child care setting were based on scales adapted from the work of Matas, Arend, and Sroufe (1978). The scales were virtually identical in the two settings with the exception that the upper two rating points were combined in scoring compliance with the parent in the puzzle task. Compliance, in both instances, involved the degree to which the child showed willingness to listen to the adult's suggestions and conform to suggestions (1 = the child refused to conform to the adult's wishes during the entire observation period; 6 or 7 = the child promptly heeded

the adult suggestions in a way that suggested a basic trust in his\her advice and acceptance of the adult's authority). Questioning or suggestions from the child reflected a sense of autonomy rather than a refusal to comply.

All global ratings were made by two raters. All differences between raters were resolved and analyses were based on the consensus scores.

4. The compliance composite from the California Child Q-Set - CCQ (Block & Block, 1980). This measure was completed by the mother, and provided a composited view of the child not possible in single setting assessments. The mother's experience of the child across many different contexts could, in effect, provide a generalized view of the child (Block & Block, 1980). In the California Child Q-Set 100 items are sorted on a 9-point continuum from extremely like the child to extremely unlike the child. Eight of these items, specified by the Blocks based on factor analysis of the Q-set, are then combined into a "super-item" composite representing compliance.

Self-control.

There were two ratings of child self-control:

1. Global ratings from the laboratory delay of gratification task involving the gift, and

2. from the observations in the child care settings.

Both of these ratings were made on a 7-point scale adapted from Arend, Gove, and Sroufe (1979). This scale is a broad characterization of the way a child controls responses to situations and his/her engagement of the environment. Low self-control (a rating of 1 or 2) is noted in characteristics such as: little ability to delay gratification or to control impulses and the expression of affect. Very high self-control (7) is characterized by somewhat excessive modulation of feelings and responses to events; the child may appear overly constrained.

Interrater reliabilities for the self-control ratings were: 77% in child care and 97% in the lab. These ratings were also made by pairs of two raters who resolved all disagreements. The consensus ratings were used in the analyses.

Cognitive functioning.

The Wechsler Preschool and Primary Scale of Intelligence (Wechsler, 1967) was administered in the child's home to measure cognitive functioning.

Results

Table 2 presents descriptive data for the study sample. An examination of the mean scores and the mode for each group of scores reveals that the modal score was close to the mean score, but that the distributions were slightly skewed in both directions. There was variability among the measures; however, there were no scores which occurred at the extremely low end of the distribution, and the most frequently occurring score was at the high extreme for three of the six measures of compliance and self-control.

Table 3 is the correlation matrix depicting the relations between the measures within and across settings. The mother's global assessment of her child's compliance was marginally related to compliance with the teacher in child care but not to measures of self-control in child care or in the gift delivery task, nor to compliance with mother or father in the puzzle task. Self-control in the lab was marginally

related to both compliance and self-control in child care. The strongest relation was found between compliance and self-control in child care.

There were many differences in the situational constraints across the settings for these assessments of self-control and compliance. Given these differences and the fact that the predominate score for several of the measures was an extremely high score, it is not surprising that apparently no global characteristic of the child predominated across settings and relationships to produce strong correlations among the measures of self-control and compliance. Compliance in the puzzle task with mother and with father was not related to compliance or self-control measured in other situations. The child's level of cognitive functioning was only related to compliance in the puzzle task with the mother. The modest relations found among the measures of compliance and self-control suggest that manifest compliance and self-control are a product of the individual child, the situation, and the adult-child relationship.

Discussion

Compliance and self-control in the child care setting, as well as self-control in the delay of gratification task, all involve the child's willingness to listen to the teacher or another adult and adjust behavioral responses accordingly. These settings may also be perceived as involving some form of actual or implied coercion such as direct requests and commands, punishment for transgressions, and rewards for cooperation. The compliance in these settings may arise from the immediate pressures of the situation and serve to inhibit the child's behavior. This response to environmental pressure may be related to the situational dimension of compliance.

Compliance in the puzzle task, on the other hand, involves the child's being responsive to the adult's attempts to teach a new skill and involves to a lesser degree the child's complying with prohibitions and inhibiting behavior. The puzzle task situation was designed to tap into the relational aspects of the adult and the child and the cognitive ability of the child. Parents were not instructed to make specific requests of their children in this task; however, the

implication was that the puzzles were to be completed and the child would need help with the difficult puzzles. All parents offered directions or suggestions in these tasks, but their styles of instructing differed. The compliance in the puzzle task with mother and father stems from a willingness to comply with a specific partner given the experiences and expectations of the relationship, i.e. receptive compliance.

The modest relation found between IQ and compliance with mother may indicate that children with greater cognitive ability required less help and hence less instruction from the parent. With fewer instructions to follow, there was less chance of appearing noncompliant, or evoking defiance, on the part of a child who experienced difficulty with the puzzles. The ability to perform a difficult task was less relevant to the other situations in which compliance and self-control were measured. The child's ability to perform a given task reflects the child's understanding of the task demands and is expected to be related to cognitive ability (Kopp, 1980). In this study child compliance in the child care setting and

with the parents tended to be rated at the high end of the rating scales with a range of 4 points on each of the scales (Table 2). By age 4, within this normal population, we would expect children to have the cognitive ability to understand such directions as "don't touch" and teachers' instructions in the child care settings. The absence of a significant relation between cognitive ability and measures of compliance and self-control in the lab and child care settings suggests that compliance and self-control of 4-year-olds in these settings may reflect more the child's willingness to comply than the child's ability to comply.

These results indicate that there is a modest relation between diverse measures of compliance and self-control obtained in a variety of settings, but that situational and relational differences play a large role. The lack of significant relations across all settings, particularly the absence of relations between compliance with the parents and any other measure of compliance or self-control, suggests that compliance cannot be assessed adequately in a single situation; nor can compliance or self-control in one

situation predict analogous behaviors in situations involving different relationships and constraints. That compliance ratings are related across several situations, but not with compliance in the task involving the parents, suggests that there may indeed be some distinction between compliance in response to situational pressures, and compliance stemming from a willingness to cooperate and exchange compliances with a familiar partner.

This distinction, however, is not meant to imply that compliant behavior stems from one source or the other, exclusively. One or the other influence may predominate depending on the situation and the relationship between the "requester" and the "complier". The findings of this study, showing modest relations between the situations with the experimenter and the teacher but not with the situation involving the parent, suggests that compliance may be different depending on whether the parent or someone else is requesting the behavior. One could infer that the experimenter in the laboratory and the teacher in the child care evoke similar tendencies in the child vis a vis a willingness to comply. Whether compliance can be

labelled situational or receptive, may be more a matter of degree than a clear-cut difference.

The strongest relation found in this study was between ratings of self-control and compliance in child care. This finding confirms the findings of others (Howes & Olenick, 1986; Vaughn et al., 1984) and emphasizes the relatedness of these concepts. Kopp (1982) theorized that compliance and self-control might be antecedents of the more global entity of self-regulation. Vaughn et al. (1984) identified compliance and delay of gratification as indicators of self-control, and Schneider-Rosen and Wenz-Gross (1990) used delay of gratification (i.e. self-control) scores to validate their measures of compliance.

The fact that the modal scores indicated very high levels of compliance and self-control and that there were no scores at the lowest end of the scales indicated that a ceiling effect may have occurred in some measures. A ceiling effect would work against finding associations between measures that might otherwise exist.

This study strengthens the case for multiple measures of the same concept within the same setting

and across a variety of situations (Howes & Olenick, 1986, Schneider-Rosen & Wenz-Gross, 1990). The results emphasize that a single measure may have little ability to predict the child's behavior in another setting with different demands and relationships. Assessments of a child's compliance and self-control, even at age 4, must be interpreted taking into account not only the demands created by the situation but how children respond to the task demands and the adults creating the demands.

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Table 1

Measures of Compliance and Self-Control by Situation

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1. Global Rating of Compliance by Mother: California Child Q-Set (1 = Extremely unlike child, 9 =Extremely like child); Super-item composite of 8 related items, e.g. Is obedient and compliant. Is eager to please. Is self-assertive.

2. Compliance in Child Care: Global Ratings after Live Observation (1 = Very low, child rejects or ignores directions, refuses to obey; 7 = Very high, child actively orients to teacher and promptly conforms to all instructions).

3. Self-Control in Child Care: Global Ratings from Live Observation (1 = Very low, difficulty moderating behavioral and affective responses, easily distracted or disorganized; 4 = Moderate, utilizes constructive and adaptive responses, abides by rules but is also spontaneous and exploring; 7 = Very high, highly regulated, little spontaneity, lack of strong affect, strong sense of structure).

4. Self-Control in Gift Delivery Task: Global Ratings from Videotaped Interaction with Experimenter (Same scale used as in #3 above).

5. Compliance with Mother and with Father in Puzzle Tasks: Global Ratings from Videotape of Interaction with Mother and with Father, Separately (1 = Very low, child rejects virtually all parental directions, refusals and negativism prevail; 6 = Very high, actively orients to parent's directions and conforms to most instructions, refusals reflect autonomy and compliant orientation rather than intentional negativism).

Table 2

Compliance and Self-Control Descriptive Statistics

	Mean	Range	Mode	SD
Parent Q-Sort Compliance Rating (possible scores, high=72, low=9)	42.1	33-50	41	4.08
Child Care Compliance (7-pt global)	5.5	3-7	6	.96
Child Care Self-Control (7-pt global)	4.3	2-7	4	1.42
Lab Self-Control (7-pt global)	4.3	3-7	4	.88
Mo Puzzle Task Compliance (6-pt global)	4.8	2-6	6	1.42
Fa Puzzle Task Compliance (6-pt global)	5.2	2-6	6	1.00

Table 3

Correlations of Compliance, Self-Control, and IQ by Situation

	1	2	3	4	5	6	7
1 Parent Rating of Compliance	-	.33*	.05	.17	.23	.13	-.11
2 Compliance in Child Care		-	-.01	-.17	.37*	.42**	.08
3 Compliance in Puzzle Task w/Mo.			-	.25	.23	.09	.34*
4 Compliance in Puzzle Task w/Fa.				-	.09	-.02	.28
5 Self-Control in Gift Delivery Task					-	.31*	.01
6 Self-Control in Child Care						-	.18
7 IQ (WPPSI)							-

*p<.10
**p<.05